|   | Index of Claims |          |            |           |          |          |          |           |          |                |                              |          |             | Αp         | Application No. |              |              |               |            |              |          |          |       |            | Applicant(s)    |              |              |         |              |          |   |                 |   |   |
|---|-----------------|----------|------------|-----------|----------|----------|----------|-----------|----------|----------------|------------------------------|----------|-------------|------------|-----------------|--------------|--------------|---------------|------------|--------------|----------|----------|-------|------------|-----------------|--------------|--------------|---------|--------------|----------|---|-----------------|---|---|
|   |                 |          |            |           |          |          |          |           |          |                |                              |          |             | 10/688,609 |                 |              |              |               |            |              |          |          |       |            | FREIMUTH ET AL. |              |              |         |              |          |   |                 |   |   |
|   |                 |          |            |           |          |          |          |           |          |                |                              |          | -           | Examiner   |                 |              |              |               |            |              |          |          |       |            | t Ur            |              | -            |         |              |          |   |                 |   |   |
|   |                 |          |            |           |          | Ш        |          |           |          |                |                              |          |             |            |                 |              | 0.1          |               |            |              |          |          |       |            |                 |              |              |         |              |          |   |                 |   |   |
|   |                 |          | 1 1184     |           |          |          | 181 (1   |           |          |                | 1811 1881                    |          |             |            |                 |              | Carlos Lugo  |               |            |              |          |          |       |            |                 |              | 3676         |         |              |          |   |                 |   | _ |
|   |                 |          |            |           |          |          |          |           | ſ        | T              |                              |          | <del></del> |            |                 |              |              |               |            |              |          |          |       |            |                 |              |              |         |              |          |   |                 |   |   |
|   |                 |          |            |           |          | Rejected |          |           |          | -              | (Through numers<br>Cancelled |          |             |            | era             | al)          | ١,           | N             | Non-E      |              | lected   |          |       | A          | Appeal          |              |              |         |              |          |   |                 |   |   |
|   |                 |          |            |           |          |          |          |           | ŀ        | +              |                              |          | Cancelled   |            |                 |              | 4            | ŀ             | +          |              |          |          |       | $\Box$     |                 |              |              |         | _            |          |   |                 |   |   |
|   |                 |          | = Allowed  |           |          | d        |          |           | ÷        |                | Restricted                   |          |             |            |                 |              | -            | ı             | Interferen |              |          | се       | e     | 0          | Objected        |              |              |         |              |          |   |                 |   |   |
|   |                 |          | L          |           |          |          |          |           | Į        | L_             |                              | · ·      |             |            |                 |              |              | L             | Ц.         |              |          |          |       |            | Ш               |              |              |         |              |          |   |                 |   |   |
|   | Cla             | aim      | Da         |           |          |          |          | •         |          |                | Claim                        |          |             | Date       |                 |              |              |               |            | ] [          | Cla      | im       |       |            |                 | Date         |              |         |              |          |   |                 |   |   |
|   | ı               | <u>a</u> |            |           |          |          |          |           |          |                |                              | _        | اير         |            |                 |              |              |               |            |              |          |          | _     | न          |                 |              |              |         | Π            |          |   |                 |   |   |
|   | Final           | Original |            |           |          |          |          |           |          |                |                              | Final    | Original    |            |                 |              |              |               |            |              |          |          | Final | Original   |                 |              | 1            |         | 1            |          |   |                 |   |   |
|   |                 |          |            |           |          |          |          |           |          |                |                              |          | 1 1         |            |                 | $\perp$      |              |               |            |              |          |          | _     |            |                 |              |              |         | <u> </u>     |          |   |                 |   |   |
|   |                 | 2        | ^          | $\dashv$  | $\dashv$ | $\dashv$ |          | $\dashv$  | 4        | - -            | 4                            |          | 51<br>52    | -          | 4               | 4            | 4            | 4             | +          | +            | $\perp$  |          |       | 101<br>102 | $\vdash$        | 4            | +            | $\perp$ | ╀-           |          |   |                 |   |   |
|   |                 | 3        | H          | $\exists$ | ᅱ        | -        |          | $\dashv$  | $\dashv$ | -              | -                            |          | 53          | $\dashv$   | $\dashv$        | $^{+}$       | +            | +             | +          | +-           | +        |          |       | 103        | $\vdash$        | +            | +            | ╁       | 十            |          | - |                 |   |   |
|   |                 | 4        |            |           |          |          |          |           |          |                | ]                            |          | 54          |            | $\Box$          | $\downarrow$ | $\downarrow$ | $\downarrow$  | 1          |              |          |          |       | 104        |                 | 1            |              |         |              |          |   |                 |   |   |
|   |                 | 5<br>6   | Z          |           | $\dashv$ | $\dashv$ | $\Box$   | $\dashv$  | $\dashv$ | +              | -                            |          | 55<br>56    | $\dashv$   | +               | $\dashv$     | +            | +             | +          | +            | -        |          |       | 105<br>106 | $\vdash \vdash$ | +            | +-           | +       | ╀            |          |   | _               |   |   |
|   | _               | 7        | 1          |           | ┪        |          |          |           | ┪        | +              | 1                            |          | 57          | $\dashv$   | 十               | +            | +            | +             | +          | +            | $\vdash$ |          |       | 107        | $\square$       | +            | +            | -       | ╁            | -        | - |                 |   |   |
|   |                 | 8        |            |           |          |          |          |           |          |                | 1                            |          | 58          | $\Box$     | $\Box$          | $\Box$       | 1            | ightharpoonup | 4          | $\bot$       |          |          |       | 108        | П               | $\Box$       | $\bot$       | I       |              |          |   |                 |   |   |
|   |                 | 9        | $\vdash$   | $\vdash$  | -        |          |          | $\dashv$  | $\dashv$ | +-             | +                            |          | 59<br>60    | ᆉ          | $\dashv$        | +            | +            | +             | +          | ┿            | $\vdash$ |          |       | 109<br>110 | H               | +            |              | ╁       | ╁            |          |   | $\dashv$        |   |   |
|   |                 | 11       |            |           |          |          |          |           |          |                | _                            |          | 61          |            | $\top$          | $\top$       | $\pm$        | 士             | $\pm$      | $^{\dagger}$ |          |          |       | 111        |                 |              | +            |         | T            |          |   |                 |   |   |
|   |                 | 12       |            |           | _        |          |          |           | _        |                | 4                            |          | 62          |            | 4               | _            | 1            | 4             | 4          | $\bot$       |          |          |       | 112        |                 | _            | $\perp$      | _       |              |          |   |                 |   |   |
|   |                 | 13<br>14 | H          | $\dashv$  | -        | $\vdash$ |          | $\vdash$  | $\dashv$ | +              | ┨                            |          | 63<br>64    | $\dashv$   | +               | ╅            | +            | +             | +          | +-           | +        |          |       | 113<br>114 | H               | +            | +            | +       | +-           |          | - |                 |   |   |
|   |                 | 15       |            |           |          |          |          |           |          |                |                              |          | 65          |            |                 |              | 1            | 士             | 1          |              |          |          |       | 115        |                 |              | 土            |         | 士            |          |   |                 |   |   |
|   |                 | 16<br>17 | lacksquare |           | $\dashv$ |          | -        |           | $\dashv$ | -              | 4                            |          | 66<br>67    | 4          | $\dashv$        | -            | 4            | 4             | +          | +            | $\vdash$ |          |       | 116<br>117 | $\sqcup$        | 4            | -            | +       | ╀            | _        |   |                 |   |   |
|   |                 | 18       | -          |           | $\dashv$ |          |          |           | $\dashv$ | _              | 1                            |          | 68          | $\dashv$   | $\dashv$        | +            | +            | +             | 十          | +-           | ╁╌       | <b> </b> |       | 118        | H               | +            | +            | +       | +            | $\vdash$ |   |                 |   |   |
|   |                 | 19       |            |           |          |          |          |           |          |                | ]                            |          | 69          | $\Box$     | 4               | 1            | 1            | _             | 1          |              |          |          |       | 119        |                 | 1            | $\perp$      | I       |              |          |   |                 | - |   |
|   |                 | 20<br>21 | _          |           | -        |          |          | $\dashv$  |          | -              | ┨                            | -        | 70<br>71    | -+         | $\dashv$        | +            | +            | +             | +          | +            | $\vdash$ | ┨        |       | 120<br>121 | Н               | +            | +            | ╀       | ╁            |          | Н | Н               |   |   |
|   |                 | 22       |            |           |          |          |          |           |          |                |                              |          | 72          |            | $\perp$         |              |              |               |            |              |          |          |       | 122        |                 |              |              |         |              |          |   |                 |   |   |
|   |                 | 23       |            |           | _        |          |          |           | 4        | - -            | 4                            |          | 73          | 4          | 4               | _            | 4            | 4             | 4          | - -          | 1        |          |       | 123        |                 | $\bot$       | 1            | Ļ       | <del> </del> |          | ļ | _               |   |   |
|   |                 | 24<br>25 | $\vdash$   |           | $\dashv$ |          |          |           | ᅱ        | $\dashv$       | ╣                            | i        | 74<br>75    | $\dashv$   | +               | +            | +            | ┽             | +          | ╁            | ╁        |          |       | 124<br>125 |                 | +            | +            | +       | ╁┈           | $\vdash$ |   |                 |   |   |
|   |                 | 26       |            |           |          |          |          |           |          |                | j                            |          | 76          | 寸          |                 |              |              | 士             | $\perp$    |              |          | 1 [      |       | 126        |                 |              | 上            |         |              |          |   |                 |   |   |
|   |                 | 27<br>28 | _          |           | 4        | $\Box$   | _        | $\square$ | -        | _              | ╣                            |          | 77<br>78    | -          | -               | _            | +            | +             | +          | +            | $\vdash$ |          |       | 127<br>128 | $\vdash \vdash$ | +            | - -          | +       | ╀            | H        | _ | _               |   |   |
|   |                 | 29       | -          |           | $\dashv$ | $\vdash$ | -        |           | ᅥ        |                | ┪                            |          | 79          | $\dashv$   | $\dashv$        | +            | $\dagger$    | $\dagger$     | +          | ╁            | -        | 1 1      |       | 129        | $\vdash$        | +            | +            | +       | +-           |          | - | -               | j |   |
|   |                 | 30       |            |           |          |          |          |           |          |                | ]                            |          | 80          |            |                 |              | $\perp$      | 1             | 1          |              |          |          |       | 130        |                 | $\perp$      | ⇉            |         |              |          |   |                 |   |   |
|   | -               | 31<br>32 |            | $\dashv$  | $\dashv$ |          | $\Box$   |           | -        | -              | ┨                            |          | 81<br>82    | $\dashv$   | +               | +            | +            | +             | +          | +            | +-       |          |       | 131<br>132 | $\vdash \vdash$ | +            | +            | +       | $\vdash$     | Н        |   |                 |   |   |
|   |                 | 33       |            | $\dashv$  | $\dashv$ |          |          |           | $\dashv$ | $\dashv$       | ┪                            |          | 83          | 十          | $\dashv$        | +            | $\dagger$    | 十             | $\dagger$  | 十            | +        |          |       | 133        | H               | $\dagger$    | +            | +       | ╁╴           |          | _ | $\neg$          |   |   |
|   |                 | 34       |            |           |          |          |          |           |          | $\blacksquare$ | ]                            |          | 84          | $\Box$     | $\Box$          |              | $\perp$      | $\perp$       | $\perp$    | $\perp$      |          |          |       | 134        |                 |              |              | I       |              |          |   |                 |   |   |
|   |                 | 35<br>36 |            |           | $\dashv$ |          |          | $\Box$    | +        | -              | ┨                            |          | 85<br>86    | $\dashv$   | +               | $\dashv$     | +            | +             | +          | +-           | ┼        |          |       | 135<br>136 | $\vdash$        | +            | +            | ╀       | -            | -        | _ | $\dashv$        |   |   |
|   |                 | 37       |            |           |          |          |          |           |          |                | _                            |          | 87          | 士          | 寸               | $\perp$      | $\dagger$    | 士             | $\top$     | 士            |          | l        |       | 137        |                 |              |              |         | 上            |          |   |                 | ļ |   |
|   |                 | 38       |            |           | _        | $\Box$   |          |           | _        |                | ]                            |          | 88          | $\dashv$   | 4               | 1            | $\perp$      | $\bot$        | 4          | $\perp$      |          |          |       | 138        |                 | $\Box$       |              | 1       | $\vdash$     |          |   |                 |   |   |
|   |                 | 39<br>40 |            |           | _        |          |          | $\dashv$  | $\dashv$ | +              | $\dashv$                     | $\vdash$ | 89<br>90    | $\dashv$   | +               | +            | +            | +             | +          | +            | $\vdash$ |          |       | 139<br>140 | $\vdash$        | +            | ╁            | ╁       | ╁            |          |   | $\dashv$        |   |   |
|   |                 | 41       |            |           |          |          |          |           |          |                | ]                            |          | 91          |            |                 |              | 1            |               |            | 上            |          |          |       | 141        |                 |              | 土            |         |              |          |   |                 |   |   |
|   |                 | 42<br>43 | Ш          | $\dashv$  | $\dashv$ | -        | $\dashv$ |           |          | _              | $\dashv$                     |          | 92<br>93    | _          | $\bot$          | 1            | 1            | +             | 4          | 4            | $\perp$  |          |       | 142<br>143 | $\sqcup$        | $\bot$       | +            | $\perp$ | $\vdash$     | $\vdash$ | _ |                 |   |   |
| : |                 | 44       | H          |           |          | $\dashv$ |          | $\dashv$  | -        | _              | 1                            |          | 94          | $\dashv$   | +               | +            | +            | +             | +          | +            | +-       |          |       | 144        | $\vdash \vdash$ | +            | +            | +-      | +            | H        | Н | H               |   |   |
|   |                 | 45       |            |           |          |          |          |           | $\Box$   |                | ]                            |          | 95.         | $\Box$     | $\Box$          | $\downarrow$ | $\downarrow$ | $\downarrow$  | $\top$     |              |          |          |       | 145        | 口               | $\downarrow$ | $\downarrow$ | I       |              |          |   |                 |   |   |
|   |                 | 46<br>47 | Н          | $\dashv$  | $\dashv$ | $\dashv$ | -        | $\dashv$  | $\dashv$ | +              | +                            | <u> </u> | 96<br>97    | $\dashv$   | +               | +            | +            | +             | +          | +            | $\vdash$ | ╽╽       |       | 146<br>147 | H               | +            | +            | +       | $\vdash$     | $\vdash$ | Н | $\vdash \vdash$ |   |   |
| , |                 | 48       |            |           |          |          |          |           |          | 士              | j                            |          | 98          | 寸          | 士               | 士            | $\top$       | $\pm$         | $\pm$      | $^{\dagger}$ |          | <b> </b> |       | 148        |                 | 士            | 1            | $\perp$ | $\perp$      |          |   |                 |   |   |
|   |                 | 49       |            | $\Box$    | 二        |          |          | $\Box$    | $\Box$   |                | 4                            |          | 99          | $\Box$     | Π.              | $\dashv$     | $\bot$       | $\bot$        | $\bot$     | $\top$       | ļ        |          |       | 149        | П               | 4            | $\bot$       | L       | F            |          | П |                 |   |   |
|   |                 | 50       |            |           |          |          |          |           | 1        |                | J                            | L        | 100         |            |                 |              |              | Ц.            | $\perp$ L  |              | 1        | JL       |       | 150        | L_L             | L            | 丄            | 1.      | 1            |          |   | L               | 1 |   |